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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/933,848	09/21/2010	Gene McClendon	277827-3/47079-209N01US	2131
144467	7590	01/25/2017		
Mintz Levin/GE One Financial Center Boston, MA 02111			EXAMINER KASTURE, DNYANESH G	
			ART UNIT	PAPER NUMBER
			3746	
			NOTIFICATION DATE	DELIVERY MODE
			01/25/2017	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GENE MCCLENDON

Appeal 2015-003085
Application 12/933,848
Technology Center 3700

Before: CHARLES N. GREENHUT, JILL D. HILL, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1–15 and 23–32. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to a variable-volume head. Claim 7, reproduced below, is illustrative of the claimed subject matter:

7. A device, comprising:

a variable-volume head, comprising:

a head body;

a moveable member having a path of movement that varies a variable volume of the variable-volume head that houses a compressible fluid, wherein the moveable member defines a portion of a boundary of an enclosed space having the variable volume in the head body, wherein the moveable member comprises a first threaded aperture; and

an adjustment screw having first and second threaded portions disposed in fixed positions relative to one another, wherein the first threaded portion is mated with the first threaded aperture of the moveable member at a first thread interface, wherein the second threaded portion is coupled to a portion of the variable-volume head at a second thread interface, wherein the first and second thread interfaces have different thread orientations and different thread pitches relative to one another, wherein the adjustment screw is configured to rotate along the first and second thread interfaces to move the moveable member along the path in an axial direction to vary the variable volume, the first and second thread interfaces each contribute to a relative axial displacement of the moveable member relative to the head body in response to rotation of the adjustment screw, the relative axial displacement includes a first relative axial displacement between the first threaded portion and the moveable member and a second relative axial displacement between the second threaded portion and the head body, and the device is configured to hold an axial position of the moveable member along the path to maintain the volume after an adjustment via the adjustment screw.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Bardenheuer	US 1,586,278	May 25, 1926
Olchawa	US 2,776,577	Jan. 8, 1957
Ramstad	US 3,174,677	Mar. 23, 1965
Rosenthal	US 4,730,503	Mar. 15, 1988
Patterson	US 2005/0175476 A1	Aug. 11, 2005

REJECTIONS

Claims 7, 24, 28, 30, and 31 are rejected under 35 U.S.C. §102(b) for being anticipated by Olchawa.

Claims 7–15, 24–28, and 30–32 are rejected under 35 U.S.C. §103(a) for being unpatentable over Rosenthal and Ramstad, or alternatively, Bardenheuer.

Claims 1–6, 23, and 29 are rejected under 35 U.S.C. § 103(a) for being unpatentable over Rosenthal, Patterson, and Ramstad, or alternatively, Bardenheuer.

OPINION

35 U.S.C. §102(b)

As noted by Appellant, claims 7 and 24 require “relative axial displacement of the moveable member relative to the head body in response to rotation of the adjustment screw,” and claim 31 includes a similar limitation. *Id.*

The Examiner acknowledges that “both the head body and the nut move relative to the lead screw,” but argues that “[t]he claim does not state that the plug is movably disposed relative to the head body, the claim only

states that it is movably disposed in the head body.” Ans. 3–4. This understanding is incorrect.

As already noted, claims 7 and 24 require “relative axial displacement of the moveable member relative to the head body in response to rotation of the adjustment screw.” Claim 24 also requires “a moveable member movable in the head body” and claim 31 requires “a plug movably disposed in the head body.” Thus, Appellant correctly argues that independent claims 7, 24, and 31 are not anticipated by Olchawa because the nut 23, relied on for the claimed movable member or plug, does not move with respect to the flap 10, relied on for the claimed head body. Appeal Br. 7–11.

For these reasons, we do not sustain the Examiner’s rejection of independent claims 7, 24, and 31 under 35 U.S.C. §102 (b). We also do not sustain the 35 U.S.C. §102 (b) rejection of dependent claims 28 and 30 for these same reasons.

35 U.S.C. § 103(a)

The Examiner finds that the combination of Rosenthal and Ramstad, or alternatively, Rosenthal and Bardenheuer suggests all of the features of Claim 7. Final Act. 5–7. The Examiner finds that the combination yields predictable results as Rosenthal states that its shaft is designed to be coupled to any object to be moved and both Ramstad and Bardenheuer have plugs / pistons that are designed to be moved. *Id.* at 7 (citing Rosenthal Abstract, *see also id.* at col. 2:37–40). The Examiner states that the motivation to combine is that:

movement of the shaft can be amplified to enable the moving object (piston) to reach its end position faster, or alternatively the movement of the shaft can be de-amplified for precision

adjustment of the final rest position of the moving object (piston); amplification/de-amplification depends on relative thread orientations and/or pitches.

Final Act. 7.

Appellant argues that “Rosenthal does not disclose a movable member or that the shaft 12 threadingly couples to a moveable member” and that the “the nuts 18 and 22 do not move axially to vary a volume within a variable volume head.” Appeal Br. 13–14. Appellant then argues that Ramstad does not “correct the deficiencies of Rosenthal” and that “Ramstad does not disclose ‘a first relative axial displacement between the first threaded portion and the movable member,’” as claimed. *Id.* at 14.

As noted above, and contrary to Appellant’s argument, Rosenthal does disclose a movable member (i.e. object to be moved). Rosenthal Abstract and col. 2:37–40 (“the shaft being coupled by any suitable means (not shown) to an object to be moved.”). As also noted, the Examiner found that this teaching of Rosenthal suggests combination with Ramstad. For example, the Examiner combines the piston of Ramstad that is threadingly coupled to a shaft with the threading arrangement of Rosenthal. Final Act. 5. Thus, it is the combination of the teachings of Rosenthal and Ramstad that the Examiner found yields the claimed “relative axial displacement between the first threaded portion and the movable member.” Ans. 5–6.

Appellant’s arguments separately address Rosenthal and Ramstad (Appeal Br. 13–14) while the Examiner relies on the combined teachings of Rosenthal and Ramstad to reject the claim. As Appellant’s argument does not address what is taught or suggested by the combination of Rosenthal and Ramstad we are not informed of error in the Examiner’s rejection. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted) (Obviousness

must be considered in light of the combined teachings of the references would have suggested to those of ordinary skill in the art.).

Appellant also argues that Rosenthal is not combinable with Bardenheuer because they use different principles of operation and such a change would “render the cited reference unsatisfactory for its intended purpose”. Appeal Br. 14. “Rosenthal teaches a principle of operation of axially moving a shaft 12 by rotating nuts 18 and 22. . . . In contrast, Bardenheuer teaches a principle of operation of blocking axial movement of shaft 33. *Id.* (citations omitted).

It is true that the shaft 12 of Rosenthal moves in a different way than the shaft 33 of Bardenheuer, but Appellant does not make clear why this is would render Bardenheuer unsatisfactory for its intended purpose. As noted by the Examiner “[t]he phrase ‘blocking axial movement of shaft’ does not exist in Bardenheuer.” Ans. 7. Further, other than to show that in the illustrated embodiment of Bardenheuer “the shaft 33 cannot move axially,” Appellant offers no evidence that blocking axial movement of the shaft is an intended purpose of Bardenheuer. *See generally*, Appeal Br. 14–15. Rather, the intended purpose of Bardenheuer appears to be to provide “a clearance pocket [] with means for varying the effective size thereof.” Bardenheuer col.1:1–4. The Examiner’s rejection combining Rosenthal and Bardenheuer is consistent with this intended purpose. Thus, this argument does not apprise us of error in the rejection.

Though Appellant argues each of the independent claims 1, 7, 24, and 31 separately, the arguments put forth are essentially the same for each claim. Thus, we are not apprised of error in the Examiner’s rejections of independent claims 1, 24, and 31 for essentially the same reasons discussed

above regarding independent claim 7. Further, as none of the dependent claims are argued separately, they fall with the respective independent claim from which they depend.

DECISION

The Examiner's rejection of claims 7, 24, 28, 30, and 31 under 35 U.S.C. §102(b) is reversed.

The Examiner's rejections of claims 1–15 and 23–32 under 35 U.S.C. §103(a) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED